

Hec Ras

Min brg = 75'

PREDESIGN-PRESURVEY REPORT

Project# _____
TIP# _____
Let Date _____
WBS# _____

County Robeson

Bridge# 413
Road# SR 1323 (Watson mill pr
Stream Watsons pond

Type Of Request: POC Force Account TIP NCMA

Date _____ Name E Akpugbo Assigned To _____

Checked By _____

Prior Survey Date _____ (attach copy of prior survey)

Study By Scour Section _____

Flood Zone yes Detail Study Limited Date Oct 17, 2006 Panel# 9348

B.M. Info _____

Quad Map Red Springs Drainage Area _____ From _____
Q25 _____ Q50 _____ Q100 _____ Method _____

Over flow structure to brg # 414

EXISTING BRIDGE INFORMATION

Location 0.1 mi E Jct SR 1325

Average Daily Traffic 70 (1991)

Length 28' Bed- To Crown 10' Water Depth 1'

Type Structure Pre-Cast Conc. Slab

Type Spans 2 @ 14'

Upstream Structure Brg # 20 (Hoke County

Location 0.4 mi S Jct SR 1131

Bed- To Crown 6' Prior Survey _____

Downstream Structure Brg # 48 (NC 71 and NC 211)

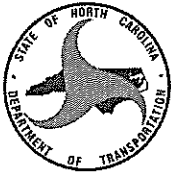
Location 0.3 mi N Jct SR 1780

Bed- To Crown 13' Prior Survey _____

SCS Watershed _____

ENVIRONMENTAL

Trout Stream No Anadromous Fish No Primary Nursery Area No
High Quality Waters No Nutrient Sensitive Waters No
Near Water Supply Intake No CAMA County No
Stream Classification C, SW
DENR River Basin Info. Lumber



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION TEMP REPAIRS: ENCASED PILES NOTED

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY ROBESON BRIDGE NUMBER 770413 INSPECTION CYCLE 2 YRS
ROUTE SR1323 ACROSS WATSONS POND M.P. 0

LOCATION 0.1 MI.E.JCT.SR1325

SUPERSTRUCTURE PRECAST CONCRETE SLAB

SUBSTRUCTURE END BTS.&INT.BT:PRECAST CONC.CAPS/TIMBER PILES

SPANS 2@14'2

LONGITUDE 79° 11' 23.72"

LATITUDE 34° 50' 12.39"

PRESENT CONDITION FAIR

INVENTORY RATING

INSPECTION DATE 08/30/2012

OPERATING RATING

PRESENT POSTING Not Posted

PROPOSED POSTING

COMPUTER UPDATE

ANALYSIS DATE

POSTING LETTER DATE

SUFFICIENCY RATING

OTHER SIGNS PRESENT 4 DELINEATORS



LOOKING EAST (WATSON MILL ROAD)

SIGN NOTICE
ISSUED FOR

NUMBERED
REQUIRED

<u>No</u>	WEIGHT LIMIT	<u></u>
<u>No</u>	DELINEATORS	<u></u>
<u>No</u>	NARROW BRIDGE	<u></u>
<u>No</u>	ONE LANE BRIDGE	<u></u>
<u>No</u>	LOW CLEARANCE	<u></u>

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 09/25/2012

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :
ROBESON	6	1	770413	28 FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1323	WATSONS POND

LOCATED :	BRIDGE NAME :	CITY :
0.1 MI.E.JCT.SR1325		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	70 1991	LT 253 RT 253

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1954	BMU	5.4651		HS 15

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
			TAN	90	ON 2 UNDER 0

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT 10 FT		1 FT

SUPERSTRUCTURE : PRECAST CONCRETE SLAB

SUBSTRUCTURE : END BTS.&INT.BT:PRECAST CONC.CAPS/TIMBER PILES

SPANS : 2@14'2

BEAMS OR GIRDERS : 6 PRESTRESSED CONCRETE CORED SLAB SECTIONS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
8.5 RC/2.75 AWS		25.583 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
24.167 FT	25 FT	LT .4165 FT RT .4165 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	DATE
HS-1	HS-1	SLAB	SV TTST	07/19/1983

SYSTEM :	GREEN LINE ROUTE :
Secondary S.R. Route	N

UNDER ROUTES AND CLEARANCES

REMARKS :

Section 5.0 – Engineering Methods

Table 7—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little Marsh Swamp (continued)	At the confluence of Dunn's Marsh Creek	23.55	*	*	1,292	*
	At the confluence of Bogue Swamp	18.81	*	*	1,107	*
	At the confluence of Little Marsh Swamp Tributary	12.96	*	*	857	*
	Approximately 4,300 feet downstream of NC 71	10.69	*	*	750	*
	Approximately 1,700 feet upstream of Railroad	6.73	*	*	546	*
	Approximately 2,000 feet downstream of Hoke County Line	4.76	*	*	430	*
Little Marsh Swamp Tributary	At the confluence with Little Marsh Swamp Creek	4.55	*	*	406	*
	Approximately 1,600 feet downstream of NC 20	3.23	*	*	320	*
	Approximately 1,900 feet upstream of NC 20	2.53	*	*	271	*
 Little Raft Swamp	At mouth	33.40	*	*	1,643	*
	At the confluence of Mclean Branch	28.08	*	*	1,458	*
	Approximately 9,950 feet downstream of US Hwy 401	7.78	*	*	603	*
Little Swamp	At the confluence with Big Swamp Creek	4.79	*	*	432	*
	At Singletary Church Road	4.18	*	*	393	*

Section 5.0 – Engineering Methods

Table 9—Roughness Coefficients

Stream	Channel "n"	Overbank "n"
Gravel Branch	0.16	0.055
Gum Branch	0.055-0.085	0.16
Gum Swamp	0.05-0.055	0.05-0.125
Hog Swamp	0.065	0.125
Holy Swamp	0.055	0.12
Horn Camp Swamp	0.058	0.13-0.135
Horns Millrace	0.065	0.125
Horse Branch	0.055	0.16
Horse Swamp	0.055	0.11-0.12
Humphrey Branch	0.058	0.13-0.135
Indian Swamp	0.045-0.05	0.12
Ivey Branch	0.06 – 0.12	0.08 – 0.15
Jackson Swamp	0.055	0.16
Jacob Diversion	0.055-0.085	0.035-0.16
Jacob Swamp	0.06 – 0.12	0.035-0.16
Jordan Swamp	0.053	0.125
Jowers Branch	0.07	0.16
Juniper Branch	0.058	0.125-0.13
Lees Branch	0.055	0.16
Leith Creek	0.07	0.16
Little Bull Branch	0.7	0.16
Little Burnt Swamp	0.05	0.125
Little Hog Swamp	0.06	0.12
Little Indian Swamp	0.045	0.12
Little Jacob Swamp	0.06 – 0.12	0.035-0.16
Little Juniper Swamp	0.055	0.125
Little Marsh Swamp	0.055	0.16
Little Marsh Swamp Tributary	0.055	0.16
Little Raft Swamp	0.058	0.125-0.13
Little Swamp	0.058	0.13
Little Tenmile Swamp	0.055	0.06
Long Branch (Near City of Lumberton)	0.055	0.16
Long Branch (Near Town of Parkton)	0.055-0.085	0.16
Long Swamp	0.45-0.55	0.13
Lumber River	0.035-0.120	0.080-0.150
McGregor Branch	0.07	0.16
McLeans Branch	0.055	0.128-0.13
McLeod Mill Branch	0.065	0.125

Section 5.0 – Engineering Methods

Table 10—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
LITTLE RAFT SWAMP (continued)				
067	6,710	1,458	160.9	5
082	8,191	1,458	161.5	5
097	9,682	1,458	162.7	5
111	11,144	1,458	164.3	5
128	12,787	1,458	165.6	5
140	14,029	1,458	167.1	5
148	14,836	1,458	167.8	5
161	16,078	1,458	168.6	5
167	16,716	1,458	168.9	5
176	17,639	1,458	169.3	5
179	17,856	1,458	170.5	5
181	18,122	1,458	171.0	5
191	19,066	1,458	171.5	5
196	19,615	1,458	172.6	5
205	20,523	1,458	174.0	5
212	21,213	1,458	174.6	5
223	22,292	1,458	175.2	5
233	23,299	1,458	175.8	5
249	24,915	1,458	176.6	5
252	25,233	1,458	177.2	5
265	26,515	1,458	177.6	5
275	27,545	1,458	180.0	5
282	28,235	1,458	180.9	5
284	28,353	1,458	181.2	5
289	28,900	1,458	181.8	5
294	29,354	1,458	182.1	5
300	30,000	1,458	182.3	5
306	30,570	1,458	182.7	5
315	31,517	1,458	183.5	5
327	32,707	1,458	184.0	5
339	33,865	1,458	184.9	5
349	34,907	1,458	186.4	5
352	35,169	1,458	186.7	5
LITTLE SWAMP				
268	26,801	432	99.6 ⁴	145 / 268
280	27,971	432	99.9	118 / 13
288	28,780	432	101.4	229 / 127
298	29,805	432	102.5	19 / 140
306	30,583	432	103.1	38 / 146
307	30,665	393	103.1	48 / 131
308	30,770	393	103.6	60 / 119
309	30,857	393	103.6	119 / 110
319	31,907	393	104.0	125 / 19

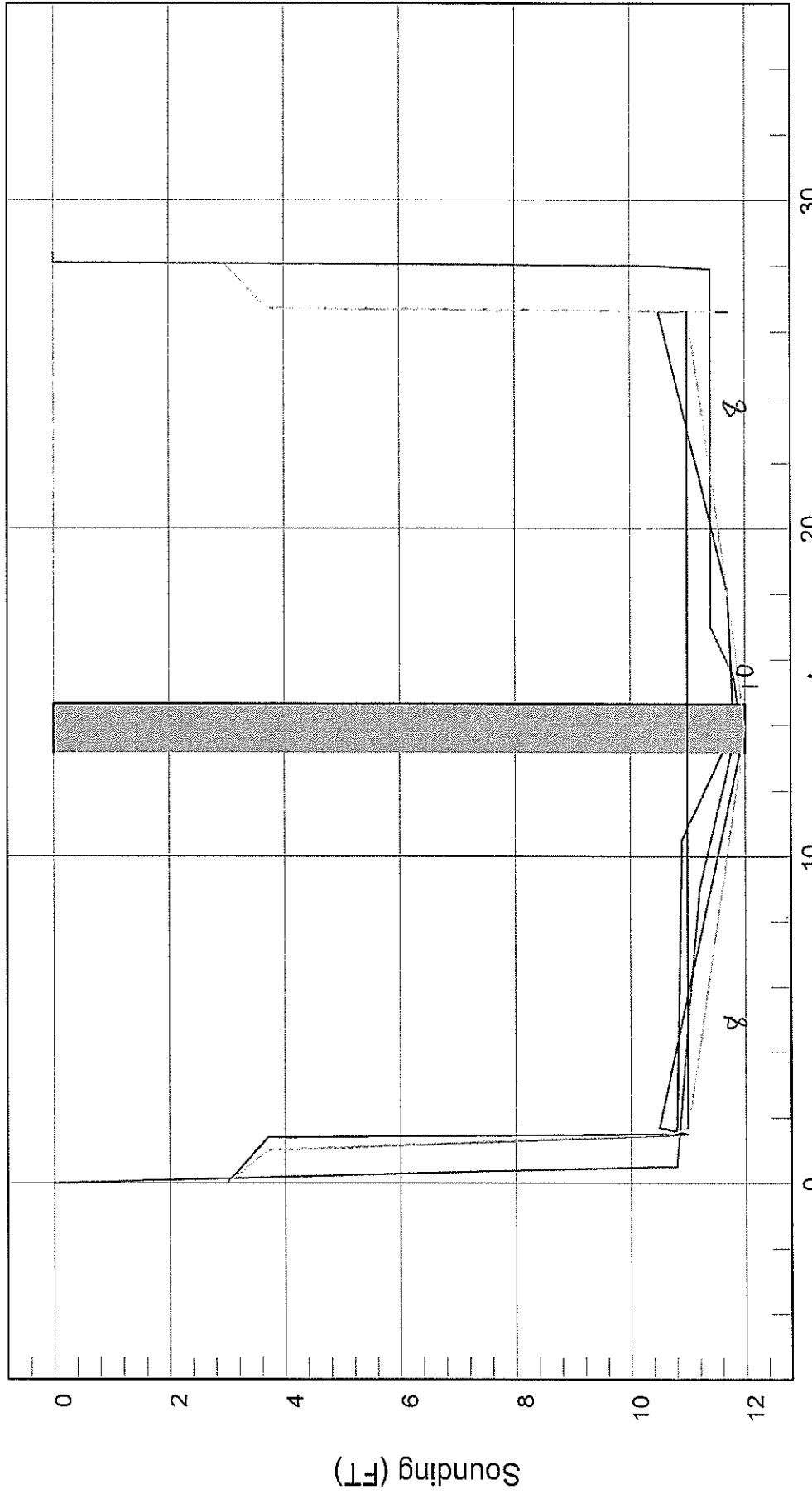
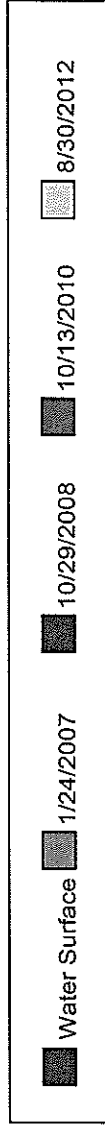
Bridge: 770413

County ROBESON

Date: 08/30/2012

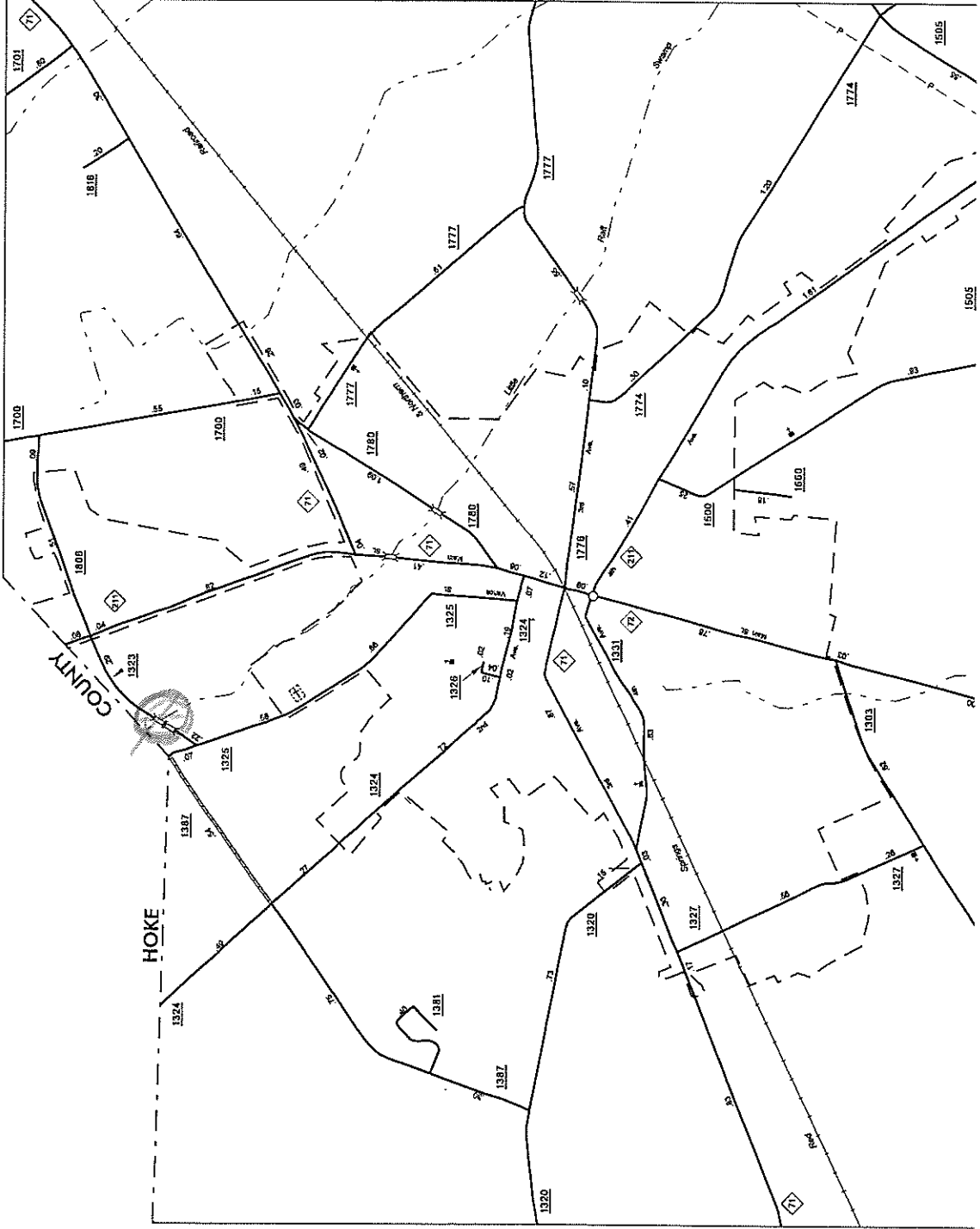
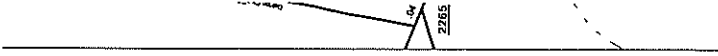
STREAMBED PROFILE (Downstream)

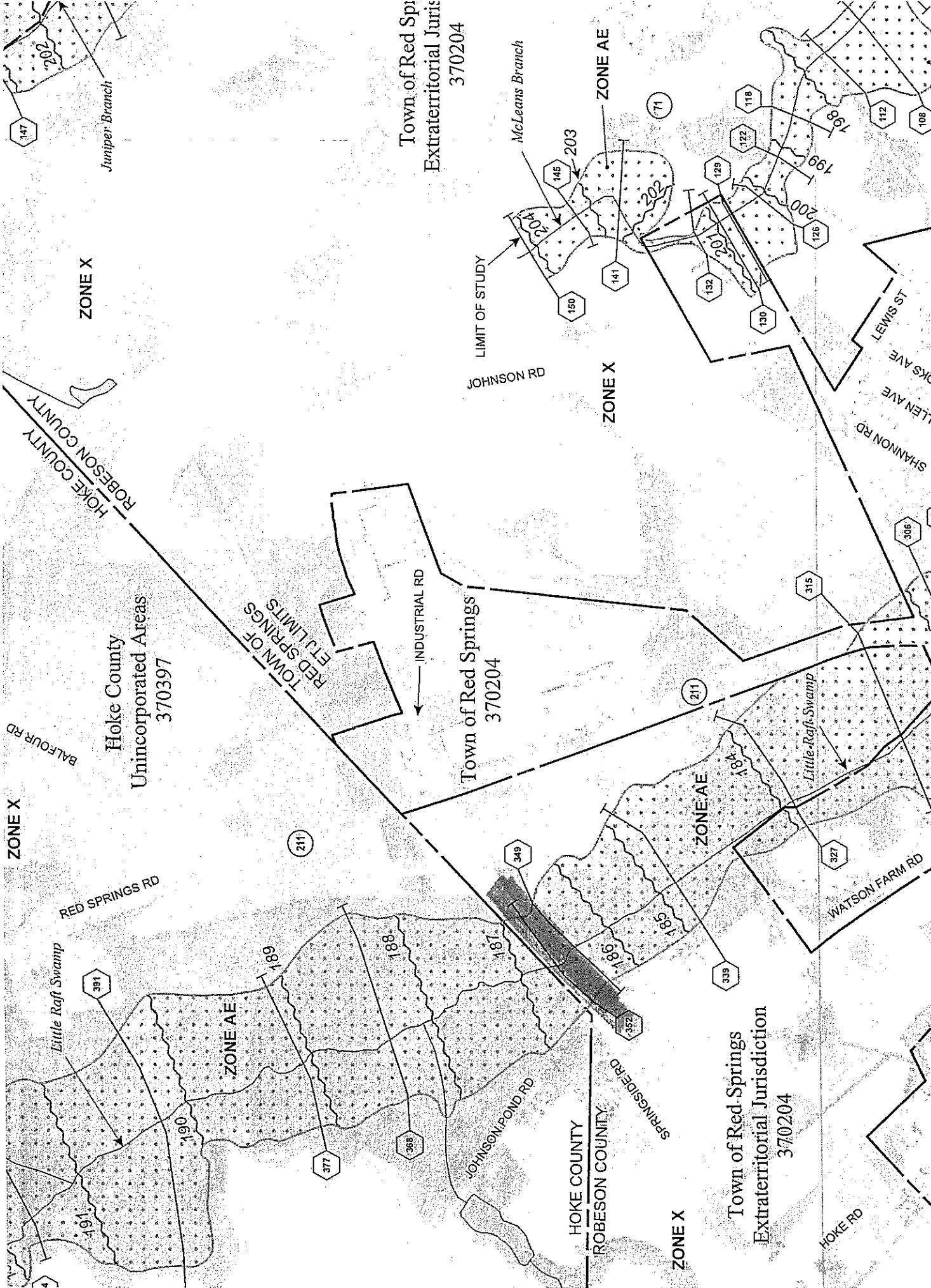
Top of Rail = 0 FT (Sounding)



$$10 \times 1.5 = 15 \times 2 = 30 + 20 + 26 = 76'$$

Distance (FT)





Town of Red Springs
Extraterritorial Jurisdiction
370204

Town of Red Springs
Extraterritorial Jurisdiction
370204

ZONE X

ZONE X

ZONE AE

ZONE AE

BALEFORD RD

RED SPRINGS RD

INDUSTRIAL RD

JOHNSON RD

Town of Red Springs
370204

TOWN OF
RED SPRINGS
LIMITS

JOHNSON POND RD

HOKE COUNTY
ROBESON COUNTY

SPRINGSIDE RD

HOKE RD

WATSON FARM RD

SHANNON RD
LEEN AVE
JACKS AVE
LEWIS ST

Little Raft Swamp

McLeans Branch

LIMIT OF STUDY

Juniper Branch

